

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 12, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kenichi et al. (JP 2000-005555).

Kenichi et al. teaches a deodorization method and apparatus, wherein the apparatus includes an intake port (port leading into chamber **6**), a deodorant supply **7, 8** for supplying deodorant into a malodorous gas, an exhaust port (port exiting fan **17**), an air flow forming device **17**, and a filter **11**. The filters **11** are disclosed to remove moisture and combined odor in the gas. Thus, the filters are removing chemicals and are interpreted as 'chemical' filters. See Abstract and Figure 1.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenichi et al..

The apparatus of Kenichi et al. is composed of a number of interconnected stages, each stage being within a separate casing. Nevertheless, it is deemed obvious to combine stages within a single casing as being no more than a matter of obvious engineering choice as the unity or diversity of the apparatus parts would depend more upon the choice of the manufacturer than on any inventive concept. See In re Lockhart, 90 USPQ 214 (CCPA 1951).

6. Claims 3, 4, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenichi et al. as applied to claim 1 above, and further in view of Yuzo et al. (JP 06-047250).

The filters **11** of Kenichi et al. do not appear to move. Yuzo et al., however, discloses in a deodorizing apparatus and method a moving filter **2L, 2R** which is automatically advanced into and out of the air passage **1** such that the surface of the filter in the air passage always has a high collection efficiency. See paragraphs [0005], [0006], [0015]. It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the filter of Yuzo et al. in the apparatus and method of Kenichi et al. in order to assure that the filter being used to deodorize the gas has a high collection efficiency.

7. Claims 5 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenichi et al. and Yuzo et al. as applied to claims 3 and 17 above, and further in view of Yoshikazu (JP 60-132623).

The combination of Kenichi et al. with Yuzo et al. is silent with respect to changing the amount the filter is moved based upon a collection amount calculated by a calculating means. Yoshikazu discloses a sensor which calculates the amount of odor and changes the amount of odor remover added based upon this calculation. See Abstract. Based upon these teachings, it would have been obvious to adjust the supply of deodorant and as well as, change the amount the filter (an odor remover) is moved based upon the amount of odor calculated by a sensor. Doing so would have permitted efficient use of both the filter and the deodorant.

8. Claims 6, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenichi et al., Yuzo et al., and Yoshikazu as applied to claims 5 and 18 above, and further in view of Yasushi (JP 2003-001157).

While both of Kenichi et al. and Yuzo et al. disclose deodorization of exhaust from a coating booth, neither teach detecting an operating condition of the coating booth. Yasushi evidences that it was known in the art at the time of the invention to use a detector to detect the operating condition of a coating booth to control when deodorant liquid is sprayed into the exhaust. See paragraph [0004]. As Yasushi teaches that the control means prevents waste of the deodorant liquid, it would have been an obvious modification to the invention of Kenichi et al..

9. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenichi et al. as applied to claim 1 above, and further in view of Horwedel (JP 06-262018).

The filters **11** of Kenichi et al. do not appear to move. Horwedel teaches the use of rotating filters **8** which are automatically rotated such that the surface of the filter in the air passage always has a high collection efficiency. It would have been obvious to one of ordinary skill in the art to employ the filter of Horwedel in the apparatus and method of Kenichi et al. in order to assure that the filter being used to deodorize the gas has a high collection efficiency.

10. Claims 8, 21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenichi et al. as applied to claims 1 and 16 above, and further in view of Yoshikazu.

Kenichi et al. is silent with respect to changing the amount the filter is moved or the amount of gas that is taken into the filter based upon a collection amount calculated by a calculating means. Yoshikazu discloses a sensor which calculates the amount of odor and changes the amount of odor remover added based upon this calculation. See Abstract. Based upon these teachings, it would have been obvious to adjust the supply of deodorant and as well as, change the amount of gas the filter (an odor remover) removes based upon the amount of odor calculated by a sensor. Doing so would have permitted efficient use of both the filter and the deodorant.

11. Claims 9, 22, 23, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenichi et al. and Yoshikazu as applied to claims 8, 21, and 24 above, and further in view of Yasushi.

While Kenichi et al. discloses deodorization of exhaust from a coating booth, the reference does not teach detecting an operating condition of the coating booth. Yasushi evidences that it was known in the art at the time of the invention to use a detector to detect the operating condition of a coating booth to control when deodorant liquid is sprayed into the exhaust. See paragraph [0004]. As Yasushi teaches that the control means prevents waste of the deodorant liquid, it would have been an obvious modification to the invention of Kenichi et al..

12. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kenichi et al. and Yoshikazu as applied to claim 1 above, and further in view of Kabushiki (JP 1-37719).

Kenichi et al. is silent with respect to adjusting fan speed based upon the amount of odor detected. Kabushiki discloses regulation of gas flow rate using a damper 8 based upon the concentration of a detected odor component. Controlling the gas flow rate using a fan instead of a damper would have been obvious as substitution of one functional equivalent for another. Moreover, it would have been obvious to use the control means of Kabushiki in the invention of Kenichi et al. in order to efficiently remove the odor.

13. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kenichi et al. and Yoshikazu as applied to claims 1 and 13 above, and further in view of Kabushiki (JP 51-101041).

Kenichi et al. fails to teach a circulation duct. Kabushiki, however, teaches a coating device wherein recirculation of exhaust gas from the exit of the purifying stage back to the entrance achieves the same level of gas purification as would be achieved using a plurality of stages. As recirculation of treated exhaust gas is known in the art, it would have been an obvious modification to the invention of Kenichi et al. as a means to assure purification of the exhaust gas.

14. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kenichi et al. and Kabushiki as applied to claim 10 above, and further in view of Yasushi.

While Kenichi et al. discloses deodorization of exhaust from a coating booth, the reference does not teach detecting an operating condition of the coating booth. Yasushi evidences that it was known in the art at the time of the invention to use a detector to detect the operating condition of a coating booth to control when deodorant liquid is sprayed into the exhaust. See paragraph [0004]. As Yasushi teaches that the control means prevents waste of the deodorant liquid, it would have been an obvious modification to the invention of Kenichi et al..

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIZABETH L. MCKANE whose telephone number is

(571)272-1275. The examiner can normally be reached on Mon-Fri; 5:30 a.m. - 2:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Elizabeth L McKane/
Primary Examiner, Art Unit 1797

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9 June 2008

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